

**03040201-060**  
**(Thompson Creek)**

### **General Description**

Watershed 03040201-060 (formerly 03040201-062 and **incorporating 03040104-060**) is located in Chesterfield County and consists primarily of **Thompson Creek** and its tributaries. The watershed occupies 192,398 acres of the Sandhills and Upper Coastal Plain regions of South Carolina. The predominant soil types consist of an association of the Alpin-Tatum-Candor-Troup series. The erodibility of the soil (K) averages 0.20; the slope of the terrain averages 12%, with a range of 0-25%. Land use/land cover in the watershed includes: 65.5% forested land, 22.3% agricultural land, 5.0% forested wetland (swamp), 4.8% scrub/shrub land, 1.2% urban land, 0.7% water, and 0.5% barren land.

While Thompson Creek originates in South Carolina, several of its tributaries originate in North Carolina including Deadfall Creek and Cedar Creek. Brown Creek originates near the headwaters of Thompson Creek and flows into North Carolina. Thompson Creek accepts drainage from Stone House Creek (Betties Branch), Clay Creek, Collins Branch, Deadfall Creek, Cedar Creek, Deep Creek (Mill Branch, Jennings Branch, Pitt Branch, Mill Creek, Horsepen Branch, Gulpins Branch, Crews Branch, Sellers Pond), and Tavern Branch. Jimmies Creek (Smarsh Branch) enters the system next, followed by Abrams Creek, Robeson Branch (Reedy Branch), Spencer Mill Creek (Sixmile Creek), and Indian Creek. Bear Creek (Rocky Prong, Teal Millpond) accepts drainage from Big Bear Creek (North Prong, Mill Branch, Cow Branch, Mash Branch, Strickland Branch) and Little Bear Creek (Polecat Branch, Bay Springs Branch, Bay Branch, Twitty Prong, Mount Prong, Mash Branch, Underground Branch, Gully Branch, Cross Branch) before flowing into Thompson Creek downstream of Indian Creek.

Beaver Creek flows into the system further downstream followed by Juniper Creek (Mill Creek, Wilkes Millpond, Cow Branch, Coker Branch, Little Juniper Creek, Campbell Lake, Pats Branch, Juniper Lake). The Cheraw State Park extends across Juniper Creek from Little Juniper Creek to downstream of Juniper Lake (also known as Eureka Lake). The Cheraw National Fish Hatchery is located within the Cheraw State Park. The Sand Hills State Forest extends over the lower portion of the watershed. Thompson Creek Watershed drains into the Pee Dee River. There are numerous recreational lakes and ponds (totaling 1,067.8 acres) and a total of 419.4 stream miles in this watershed, all classified FW.

### **Water Quality**

| <b><u>Station #</u></b> | <b><u>Type</u></b> | <b><u>Class</u></b> | <b><u>Description</u></b>                               |
|-------------------------|--------------------|---------------------|---|
| PD-246                  | S                  | FW                  | THOMPSON CREEK AT S-13-243 0.8 MILES NE OF CHESTERFIELD |
| PD-673                  | BIO                | FW                  | THOMPSON CREEK AT SC 109                                |
| PD-247                  | S                  | FW                  | THOMPSON CREEK AT SC 9 1.5 MILES ESE OF CHESTERFIELD    |
| PD-671                  | BIO                | FW                  | DEEP CREEK AT SR 47                                     |
| PD-338                  | S                  | FW                  | THOMPSON CREEK AT S-13-148 S OF CHERAW                  |
| PD-677                  | BIO                | FW                  | NORTH PRONG CREEK AT SC 102                             |
| PD-340                  | W                  | FW                  | JUNIPER CREEK AT S-13-494                               |

**Thompson Creek** - There are four monitoring sites along Thompson Creek. Aquatic life uses are fully supported at the furthest upstream site (**PD-246**), but recreational uses are not supported due to fecal coliform bacteria excursions. At the next site downstream (**PD-673**), aquatic life uses are partially supported based on macroinvertebrate community data. Further downstream (**PD-247**), aquatic life uses are partially supported due to dissolved oxygen excursions, compounded by a significant increasing trend in total phosphorus concentration. Recreational uses are not supported due to fecal coliform bacteria excursions; however, a significant decreasing trend in fecal coliform bacteria concentration suggests improving conditions for this parameter.

Aquatic life uses are fully supported at the furthest downstream site (**PD-338**); however there is a significant increasing trend in five-day biochemical oxygen demand. A significant decreasing trend in total phosphorus concentration suggests improving conditions for this parameter. P,P'DDT (a metabolite of DDT) was detected in the 1998 sediment sample. Although the use of DDT was banned in 1973, it is very persistent in the environment. Recreational uses are partially supported due to fecal coliform bacteria excursions.

**Deep Creek (PD-671)** - Aquatic life uses are partially supported based on macroinvertebrate community data.

**North Prong Creek (PD-677)** - Aquatic life uses are fully supported based on macroinvertebrate community data.

**Juniper Creek (PD-340)** - Aquatic life uses are fully supported. This is a blackwater system, characterized by naturally low pH. Although pH excursions occurred, they were typical of values seen in blackwater systems and were considered natural, not standards violations. Recreational uses are fully supported.

**Juniper Lake** - Juniper Lake in Cheraw State Park is a 260-acre impoundment on Juniper Creek, with a maximum depth of approximately 25 feet (7.6 meters) and an average depth of approximately six feet (1.9 meters). Juniper Lake's relatively undeveloped watershed comprises 52 square miles (136 km<sup>2</sup>), and is almost entirely contained within state park and the Sand Hills State Forest boundaries. Juniper Lake was treated with aquatic herbicides from 1989-1991 to control aquatic plants and provide access for swimming, fishing, and boating. These treatments were successful and no additional treatments have been necessary.

## **NPDES Program**

### **Active NPDES Facilities** **RECEIVING STREAM**

**NPDES#**

**FACILITY NAME**  
**PERMITTED FLOW @ PIPE (MGD)**  
**COMMENT**

**TYPE**  
**LIMITATION**

THOMPSON CREEK  
TOWN OF CHESTERFIELD  
PIPE #: 001 FLOW: 0.45 (PROPOSED)  
PIPE #: 001 FLOW: 0.75 (PROPOSED)  
PIPE #: 001 FLOW: 1.00 (PROPOSED)  
WQL FOR DO,TRC,NH3N,BOD5

SC0025232  
MINOR DOMESTIC  
WATER QUALITY  
WATER QUALITY  
WATER QUALITY

THOMPSON CREEK  
HEDRICK SAND & GRAVEL CO.  
PIPE #: 001 FLOW: M/R

SCG730045  
MINOR INDUSTRIAL  
EFFLUENT

## **Nonpoint Source Management Program**

### ***Camp Facilities***

**FACILITY NAME/TYPE**  
**RECEIVING STREAM**

**PERMIT #**  
**STATUS**

WOODMAN OF WORLD YOUTH CAMP/RESIDENT  
MOUNT PRONG

13-0172  
ACTIVE

CAMP FOREST/RESIDENT  
JUNIPER LAKE-JUNIPER CREEK

13-0084  
ACTIVE

CAMP JUNIPER/RESIDENT  
JUNIPER LAKE-JUNIPER CREEK

13-0083  
ACTIVE

CHERAW STATE PARK/RESIDENT  
JUNIPER LAKE-JUNIPER CREEK

13-0078  
ACTIVE

### ***Mining Activities***

**MINING COMPANY**  
**MINE NAME**

**PERMIT #**  
**MINERAL**

BECKER MINERALS, INC.  
PAGELAND QUARRY

0797-25  
GRANITE

CHESTERFIELD COUNTY  
COUNTY PIT

0272-25  
SAND/CLAY

JEWEL CITY SAND CO., INC  
JEWEL CITY SAND MINE

1147-25  
SAND

## **Water Supply**

**WATER USER (TYPE)**

**REGULATED CAPACITY (MGD)**

**STREAM****PUMPING CAPACITY (MGD)**

TOWN OF CHESTERFIELD (M)  
THOMPSON CREEK

1.00  
2.20

**Growth Potential**

There is a low potential for growth in this watershed, which contains the Towns of Patrick, Chesterfield, Ruby, and Mt. Croghan, and a portion of the Town of Cheraw. Water service is available in the above towns, but sewer services are limited to Chesterfield and the Cheraw urban area. The Town of Chesterfield has recently extended water and sewer service east of the community to serve a local industrial park, but few other extensions are planned in the next five years. Commercial and industrial development is likely west of Cheraw and east of Chesterfield. The lower portion of the watershed (near Patrick) is in public ownership as part of the Sand Hills State Forest, and development will be limited as a result.

Watershed 03040104-060, to the west of this watershed, has a low to moderate potential for growth. A portion of the Town of Pageland resides in this watershed and reflects the edge of the Charlotte Metroplex; future growth is expected. Pageland and the area immediately outside of the town have water and sewer service.